Public Safety Radio Strategic Planning Committee

2009 Report to the Legislature
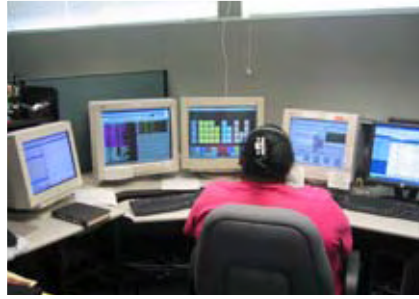
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Public Safety Radio Strategic Planning Committee

California Highway Patrol (CHP)
California Military Department (CMD)
Department of Corrections & Rehabilitation (CDCR)
Department of Finance (DOF)
Department of Fish & Game (DFG)
Department of Forestry & Fire Protection (CAL FIRE)
Department of General Services - Telecommunications Division (DGS - TD)
Department of Justice (DOJ)
Department of Parks & Recreation (DPR)
Department of Public Health (CDPH)
Department of Transportation (Caltrans)
Department of Water Resources (DWR)
Emergency Medical Services Authority (EMSA)
Governor's Office of Emergency Services (OES)
Governor's Office of Homeland Security (OHS)

The 2009 Annual Report of the Public Safety Radio Strategic Planning Committee (PSRSPC)outlines current progress on initiatives identified in prior year reports as well as new initiatives. Links to those reports are provided herein as appropriate. We hope you find this new succinct approach more accessible.

Left: Caltrans OASIS trailer providing voice and data communications at the Harris Fire. Photo courtesy of Caltrans. Center: State Parks dispatch position at NORCOM. Photo courtesy of DPR. Right: Photo of earthquake damage. Photo courtesy of Rober Eplett, OES.

Left: Rapid Response Vehicle. Photo courtesy of CHP. Center Photo: DWR's participation in Golden Guardian, 2008 in Southern California. Photo courtesy of DWR. Right Photo: Aircraft in process of containing a wildfire. Photo courtesy of Cal Fire.

Executive Summary

The Public Safety Radio Strategic Planning Committee (PSRSPC) was established by the Public Safety Communications Act of 2002 (AB 2018 [Nakano] now Government Code section 8592 et seq.). The PSRSPC consists of California's state public safety agencies and works to develop and implement an integrated statewide public safety communications system that facilitates interoperability among its members as well as fosters shared use and interoperability with local and federal public safety agencies.

The PSRSPC has made significant progress towards improving emergency interoperable communications since its inception, including:
1. Assessment of critical operability needs of member agencies and departments
2. Investment of over $16 million in federal grant funds dedicated to the improvement of interoperable communications
3. Collaboration with CalSIEC in further developing California's "System of Systems" approach to addressing interoperability
4. Representation of state interests and significant contribution to the development of the California Statewide Communication Interoperability Plan (CalSCIP)
5. Nationwide assessment of best practices regarding sustainable funding sources dedicated to interoperable communications
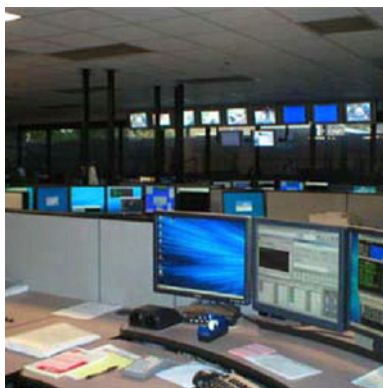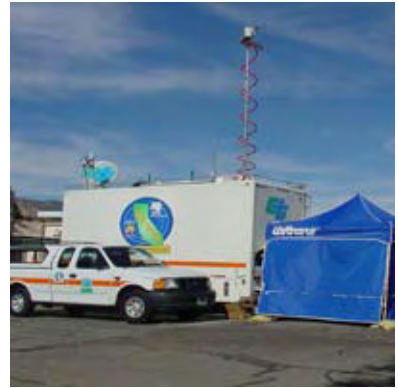
In the last year, PSRSPC has made progress in several areas, including:
1. Procurement of six mobile command vehicles providing tactical interoperable communications capabilities for use in each of California's mutual aid regions
2. Assistance to local constituents in completing Tactical Interoperable Communication Plans (TICPs)
3. Procurement of contractual support to implement the CalSCIP
4. Development of a standardized review process for the procurement of interoperability equipment by member agencies and departments

The PSRSPC identified the following requirements for 2009 and beyond:

- Leverage existing and new funding sources to ensure sustained funding for maintaining and improving California's communications systems
- Refine the group's formal governance structure overseeing interoperable communications to better support stakeholders, enhance technical collaboration, and ensure statewide adoption of common objectives
- Continue to focus on collaboration in addressing state-level communications needs as achieving interoperability requires partnership among emergency response organizations at all levels

The PSRSPC has also adopted an action plan for 2009, including activities to further progress on these goals.

Top Left: IC4U interoperability system being loaded for air movement on a California National Guard C-130J to support exercise Golden Phoenix. Photo courtesy of CMD.
Top Center: Caramel Valley wild fire. Photo courtesy of Cal Fire.
Top Right: Caltrans OASIS trailer providing voice and data communications at the Cajon Maintenance Station during Golden Guardian 08. Photo courtesy of Caltrans.
Bottom Left: EMS transport. Photo courtesy of EMSA.
Bottom Center: Flood Operations Center. Photo courtesy of DWR.
Bottom Right: State Parks Southern communication center and tower. Photo courtesy of DPR.

Left: Damage to Overlook Vault site caused by a fire in Santa Barbara County in 2004. Photo courtesy of DPR. Center: DFG coordinating air drops during Catalina Island fire. Photo courtesy of DFG. Right: Interior of Rapid Response Vehicles, Photo courtesy of CHP.
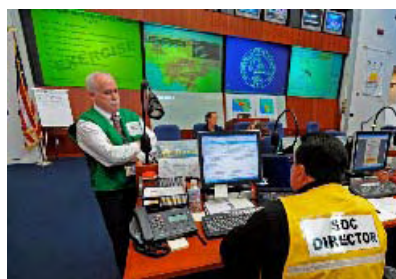
Vision for 2009 and Beyond

Collaboration

The PSRSPC will continue to focus on collaboration in addressing state-level communications needs. Key to this effort is defining State communications needs through the development of a comprehensive 10-year strategic plan. This plan will be developed by the Department of General Services in cooperation with the individual PSRSPC member agencies and departments. The PSRSPC will also continue to build consensus on both operability and interoperability policy issues through quarterly Executive meetings, and monthly Technical Working Group meetings.

Governance

The PSRSPC will refine the group's formal governance structure for interoperable communications to better support stakeholders, enhance technical collaboration, and to ensure statewide adoption of common objectives. An optimal governance structure is outlined in the federally approved California Statewide Communications Interoperability Plan (CalSCIP) (Refer to CalSCIP Report, page 40). California has received grant funding from the Department of Homeland Security (DHS) that has been dedicated to the implementation of CalSCIP initiatives (Refer to CalSCIP Report, page 143).

Funding

California has been very successful in obtaining federal funding and has strategically allocated these funds to enhance emergency communications. Further, these funds have been used to leverage the limited state funding that each member agency and department receives for emergency communications. However, significant sustained funding is required for maintaining and improving California's communications systems. Such funding must also address obsolescence, remote communications site vulnerabilities, compliance with FCC mandates, and advancing interoperability. An example of a best practice of a sustainable funding source may be one structured similar to the on-going 9-1-1 fund (2008 PSRSPC report to the Legislature, page 23:24) or another similar program.

Left: Caltrans OASIS trailer providing voice and data communications at the Cajon Maintenance Station during Golden Guardian 08. Photo courtesy of Caltrans. Right: State Operations Center. Courtesy of OES.

Left: Military Department Vehicle. Photo courtesy of CMD. Right: Emergency Medical Services Authority Command Center. Photo courtesy of EMSA.

Activities During 2008

Collaboration

- Designed, outfitted for deployment of six transportable gateways (mobile communications vehicles) for use in each California Mutual Aid Region (2008 PSRSPC Report to the Legislature, page 8).
- PSRSPC is developing a standardized communications equipment procurement process to evaluate P25 compliance and a waiver process when necessary.
- Prepared a draft "New Members" handbook. This will ensure communications planning continuity and provide reliable source of information on radio communications, interoperability, and the role of the PSRSPC

- Continued to provide technical assistance for the creation Tactical Interoperable Communications Plans (TICPs) for all counties, in aims of ensuring response level interoperability statewide.
- Developed outreach materials on interoperability and the role of the PSRSPC that can be used by member agencies to increase awareness regarding interoperability issues. (2008 PSRSPC Report to the Legislature, page 8).

2008
Activities

Left: Damage to Overlook Vault site caused by a fire in Santa Barbara County in 2004. Photo courtesy of DPR. Center: DFG coordinating air drops during Catalina Island fire. Photo courtesy of DFG. Right: Interior of Rapid Response Vehicles, Photo courtesy of CHP.

Governance

- CalSCIP was approved by the Federal Department of Homeland Security (Refer to CalSCIP Report)
- Continued collaboration with CalSIEC on the development of statewide systems integration through joint meetings and charter development.

Funding

- Through PSRSPC collaborative efforts limited one-time federal grant funds were maximized to implement of key interoperability projects. These allocations included funds from two federally funded grant programs -- the Public Safety Interoperable Communications Grant Program (PSIC) and Interoperable Emergency Communications Grant Program (IECGP). Significant outcomes of these efforts include funding from the PSIC grant program dedicated to the development of a 10-Year strategic plan towards achieving interoperability for each the PSRSPC agencies that own radio infrastructure and IECGP funds were dedicated to the implementation of the CalSCIP.

- Began development of decision making methodology to improve the effectiveness of federal grant funds designated for state-level interoperable communications projects.
- Adopted an interim PSRSPC budget change proposal review process in support of the Governor's Emergency Operations Executive Council (GEOEC). This process will ensure that the requests for budget augmentations in the area of interoperable communications are coordinated, and that overlaps and possible efficiencies are taken into account between the PSRSPC member organizations.

Left: Crews responding to fire. Right: State Operations Center. Photos courtesy of Robert Eplett, OES.

Action Plan for 2009

Sustainable Funding

✦ Build support statewide for, and encourage state leadership in, establishing a sustainable funding program for California's public safety communications systems

✦ Continue to pursue grant funding for California's public safety communications systems including equipment purchases and systems upgrades.

Governance

✦ Continue participation with CalSIEC in the implementation of the governance initiatives identified in the CalSCIP.

✦ Continue collaboration with CalSIEC in the development of Memorandum of Understanding (MOU) templates for interoperability applications.

Left: Communications Console: Satellite Modem, Satcomm Antenna Positioner, Two-way Radios and an Interoperability Switch. Photo courtesy of EMSA, Center: Rapid Response Vehicle, Photo courtesy of CHP, Right: Clean up along the shore of Treasure Island during Cosco Busan spill in SF Bay. Photo courtesy of DFG.

2009
Action Plan

On-going Operability Improvements

✦ Develop a 10-year strategic plan for state communications systems including a phased approach for all PSRSPC member agencies to fulfill their unique interoperability requirements while improving operability, and taking into account federal mandates.

✦ Continue to address policy issues and operational challenges regarding use, development, and maintenance of remote communications sites.

On-going Collaboration Efforts

✦ Collaborate with the GEOEC on budget coordination, as needed.

✦ Continue Legislative education and outreach efforts

✦ Continue partnering with CalSIEC in the development of TICPs for all counties.

DFG Steelhead and Swordfish patrol boats on joint fisheries patrol. Photo courtesy of DFG.

Left: Caltrans OASIS trailer providing voice and data communications at the Cajon Maintenance Station during Golden Guardian 08. Photo courtesy of Caltrans. Center: Rapid Response Vehicle to provide incident commanders direct communication using disparate radio systems. Photo courtesy of CHP. Right: Emergency Communications Command Trailer deployed to Gorman Creek in Sept. 2007. Photos courtesy of DWR.

Immediate Technical Challenges

A 2006 survey of state agencies found obsolescence ranged from 47-81 percent for seven categories of radio equipment (2008 PSRSPC report to the Legislature, page 11).

Critical facilities, especially remote communications sites, are vulnerable to natural hazards (2008 PSRSPC report to the Legislature, page 17), suffer from deferred maintenance, lack of space, and inadequate utilities (e.g., greening initiatives [AB 32]) to support the installation of modern equipment. The condition of these sites is critical to both maintaining operability and accommodating interoperability equipment.

The State of California must replace or upgrade significant portions of its radio systems to comply with the following Federal Communications Commission (FCC) regulations:
+ Rebanding by 2010 (affecting equipment in the 806-824 and 851-869 MHz bands), and
+ Expansion by 2012 into the new 700MHz band
+ Narrowbanding by January 1, 2013 (affecting equipment in the 150-174 and 450-512 MHz bands),

Non-compliance will result in the loss of communications capabilities and potential imposition of significant fines (2008 PSRSPC report to the Legislature, page 13:18), and/or the State's forfeiture of coveted public safety spectrum.

Many events, and virtually all large scale incidents, are multi-disciplinary in nature, which requires the ability to communicate across discipline-specific radio systems. Interoperability depends on operability. Developing a "System of Systems" approach to address statewide interoperability in California will be challenging, requiring a comprehensive effort and sustainable funding (2008 PSRSPC report to the Legislature, page 14). It will also require an organized and disciplined governance structure (2008 PSRSPC report to the Legislature, page 12).

Legislatively Required PSRSPC Activities

Activity	Code Cite	Status
PSRSPC Meetings and Membership		9/30/08, 12/2/08. PSRSPC supported by monthly Technical Working Group meetings and additional subgroup meetings.
Consultation with Organization and Entities	8592.3 (a)	PSRSPC members participate in September 2008 Cal SIEC governance workshop. Joint meeting with CalSIEC held 12/2/08. PSRSPC continues to collaborate with the listed organizations and entities. Continue legislative outreach and approved PSRSPC overview power point. Continued to assist local agencies with TICP development
Model Memorandum of Understanding (template set)	8592.3 (c)	Goal for 2009: In conjunction with CalSIEC, finalize a MOU for six gateway platforms.
Equipment Purchases	8592.4 (a)	In Development
Equipment Waivers	8592.6 (c)	In Development
Budget Proposals	8592.7	PSRSPC continues to work with GEOEC and DGS-TD to perform reviews, consistent with funding availability. Interim protocols adopted. Collaboration and consensus on allocation of state-level PSIC and IECGP grant funds. Continue to review and refine the methods by which we evaluate budget proposals.
Annual Report to the Legislature	8592.6 (a)	PSRSPC continues to refine the essence of the Annual Report to better conform to the purpose and audience for which it is intended

References

2008 Public Safety Communications Strategic Plan and Report to the California State Legislature, Public Safety Radio Strategic Planning Committee, January 2008. (http://rimsinland.oes.ca.gov/Operational/OESHome.nsf/PDF/PSRSPC%20Report%20to%20the%20Leg%202008/$file/2008Report.pdf) www.psrspc.ca.gov

California Statewide Communications Interoperability Plan, Governor's Office of Emergency Services with California Statewide Interoperability Executive Committee and Public Safety Radio Strategic Planning Committee, December 2007. (http://rimsinland.oes.ca.gov/Operational/OESHome.nsf/PDF/CalSCIPGrey/$file/CalSCIPGrey.pdf)

Glossary

Bandwidth – The amount of spectrum occupied by a radio signal (usually measured in kilohertz). There is an ongoing effort nationally to increase the amount of usable spectrum by reducing the bandwidth ('wideband') used today to half ('narrowband'), and adding new users between existing users.

CalSCIP – The California Statewide Communications Interoperability Plan is seen as the primary guiding document for statewide communications interoperability planning within California.

CalSIEC – The California Statewide Interoperability Executive Committee has been tasked with managing the State and federally designated interoperability spectrum on behalf of all of our public safety first responders. CalSIEC develops and maintains the agreements that define practices for the use of interoperability channels. CalSIEC was established and operates under a Federal Communications Commission charter to the states to administer that portion of the 700 MHz band designated as interoperability spectrum.

Gateway – The commonly accepted term to describe a standalone device that is used to patch two or more radio systems together to bridge the users of each system, creating interoperability.

Interoperability – Interoperability generally refers to the ability of public safety emergency responders to work seamlessly with other systems or products without any special effort. Wireless communications interoperability specifically refers to the ability of public safety officials to share information via voice and data signals on demand, in real time, when needed and as authorized.

Narrowband – In the context of current public safety voice and data communications, operation in most of the public safety bands is limited to narrowband operations using either 25-, 12.5-, or 6.25-kHz-wide bandwidth requirements.

Narrowbanding – Narrowbanding is the process of adopting updated technical standards to permit more individual voice channels to operate in a given slice of spectrum. In the affected public safety communications VHF high band and UHF frequency spectrum, most current public safety radio systems use 25 kHz-wide channels. The Federal Communications Commission (FCC) has mandated that all non-Federal public safety licensees using 25 kHz radio systems migrate to narrowband 12.5 kHz channels by January 1, 2013. Agencies that do not meet the deadline face the loss of communications capabilities.

Operability – The ability for members of a public safety agency to communicate as authorized with other members of that agency at any time from anywhere within the agency's responsibility area.

PSRSPC – Public Safety Radio Strategic Planning Committee was codified by the PublicSafety Communications Act of 2002 (Government Code section 8592 et seq.).

Rebanding – A process of moving groups of channels to different chunks of spectrum in the same radio band. The remedy for Nextel cell sites causing interference to public safety radios at 800 MHz was to reband Nextel and public safety from a commingled situation to separate, exclusive, contiguous chunks of spectrum.

SoS – System of Systems: the result of the amalgamation of disparate communications systems statewide via digital networking technologies into a linked infrastructure (or network) capable of supporting interoperable communications.